Predictors of Student Satisfaction in Web-Based Courses

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OUTLINE

- Purpose
- Problem Statement
- Significance of the Study
- Methodology
- Results
- Limitations
- Conclusions
- Questions

Objectives

1. Describe Astin's Inputs-Environment-Outcome-Environment (I-E-O) Model
2. Discuss Chickering and Gamson’s Seven Principles for Good Practice in Education
3. Explain how to statistically control for student characteristics
4. Provide suggestions to teachers regarding strategies to enhance students' satisfaction

BACKGROUND

- 1999-2000: 8% of undergraduate and 12% of master's students enrolled in DE courses
- 2002:
  - 84% of all colleges were expected to offer DE courses.
  - 40% full time faculty used course Web-sites

National Governor's Association (2001)

National Center for Education Statistics (2002)

THE PROBLEM

- Researchers have attempted to link student outcomes with the Web-based environment.
- Without controlling for student characteristics, it may be difficult to make causal inferences about the virtual classroom.
- Student satisfaction may not be be a result of the course curriculum.
- Students may be more satisfied with Web-based courses because of their:
  - Computer Skills
  - Pre-existing knowledge of course content

SIGNIFICANCE OF THE STUDY

- Web-based courses are becoming more popular.
- Comparability in learning between traditional classroom and Web-based courses.
- Satisfaction may impact on willingness to enroll in future Web-based courses.

AIM

Research Question

How well do the environmental variables predict a student's level of satisfaction, when controlling for student characteristics?

7 PRINCIPLES FOR GOOD PRACTICE IN EDUCATION

- Encourage contacts between students/faculty
- Develop Reciprocity/cooperation
- Use active learning
- Give prompt feedback
- Emphasize time on task
- Communicate high expectations
- Respect diversity and ways of learning

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin, 39*(7), 3-6.

INSTRUMENT

- Evaluating Educational Uses of the Web in Nursing (EEUWIN “you win”)
- Developed in 1999
- Three Nurse Researchers / Three Universities
- 57 – Items
  - 10 Demographic
  - 45 Perceptions (Likert or Categorical Responses)
  - 2 Open-Ended

LEWIN RELIABILITY

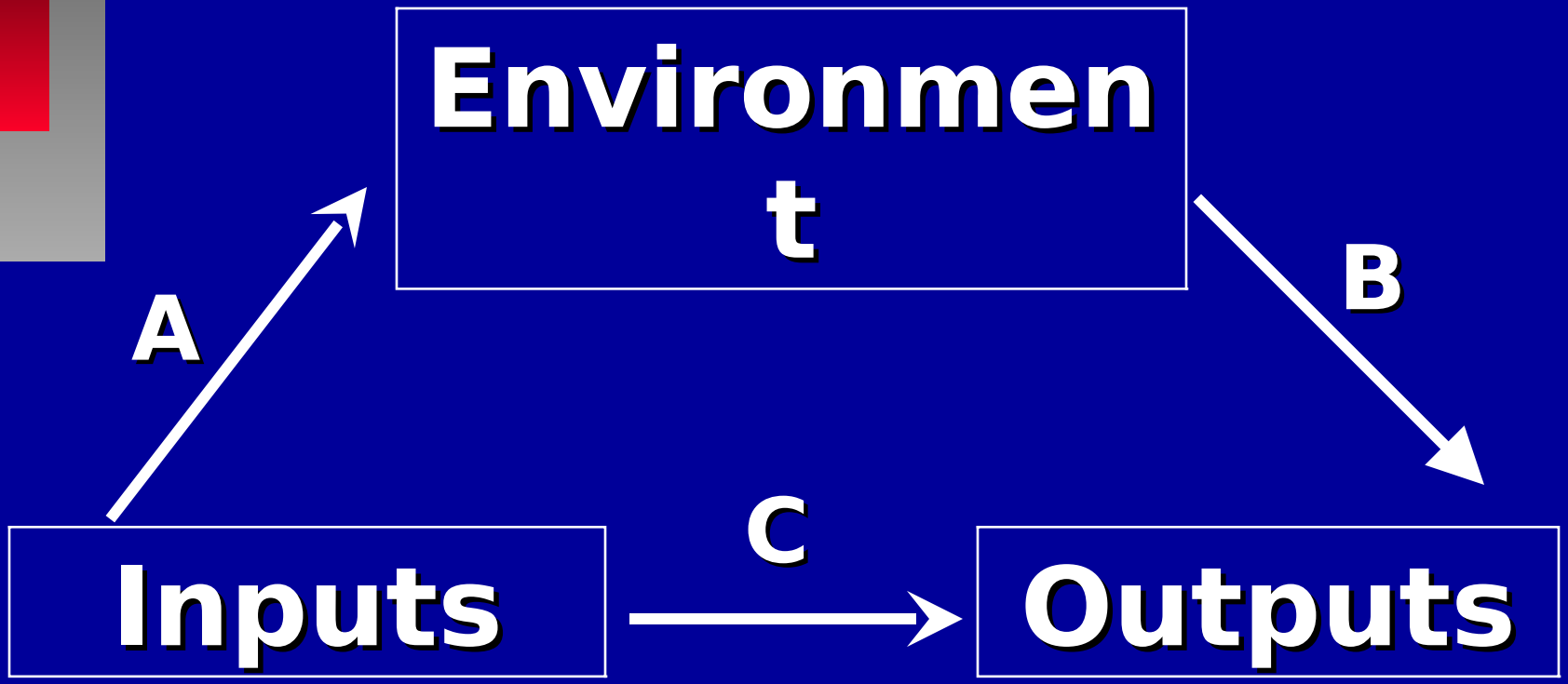
Subscales	Spring 1999	Fall 1999	Spring 2000
Educational Practice	.84	.83	.83
Technology	.76	.76	.76
Outcomes	.88	.86	.86
Total	.84	.83	.83

EEWUIN VALIDITY

Content Validity

- Items developed by national panel of experts – technology
- Items came from the Current Student Inventory (CSI)
- Items selected by three researchers

Astin's Input-Environment-Outcome (I-E-O) Model



Astin, A. W. (1993). ***Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education***. Phoenix: Oryx Press.

METHODOLOGY

- **Design**: Secondary Data Analysis
  Descriptive, correlational
- **Sample**: Graduate and Undergraduate Students (n = 120)
  Fall Semester 2000
- **Setting**: Large Midwestern University
- **Analyses**: Regression Analysis
  $p \leq .05$

VARIABLES

- **Criterion: Student Satisfaction**

- **Predictors**
  - **Input Variables (5 items)**
  - **Environmental Variables (6 items)**
    - **Principles for Good Practice in Education**

REGRESSION ANALYSIS

Hierarchical

- **Step 1: Enter Input Predictors**
  1. Age
  2. Distance Living From Campus
  3. Number of Web Courses Taken
  4. Knowledge of Technology at Start
  5. Adequacy of Computer Skills

REGRESSION ANALYSIS

Hierarchical

- **Step 2: Enter Environmental Predictors**

  (Principles of Good Teaching)

  - **Know the instructor**
  - **Work in Teams/Groups**
  - **Participate in Online Discussions**
  - **Provide Timely Feedback**
  - **Time on Task**
  - **Variety of Assessment Techniques**

DESCRIPTION OF THE SAMPLE (*N* = 120)

Characteristic	Percent		*n*
Gender	89.8%	(Female)	106
Ethnicity	91.2%	(White)	104
Age	64.8%	(20-40 years)	77
Residence	61.3%	(Urban)	73
Distance	56.3%	(≤ 50 miles)	67
	43.7%	(≥ 51 miles)	52

REGRESSION ANALYSES

- R^2 Change = r^2
- Positive Correlations = both variables increase
- Negative Correlations
  - One variable increases
  - One variable decreases
- The greater the value, the stronger the correlation or the relationship
- Focus on Red Parts of Table

RESULTS:
Regression Model 1 Summary

Model	R	R^2	Adjusted R^2	R^2 Change	Sig.
1	.255	.065	.012	.072 (22.2%)	.192

Model 1: Input Predictors

1. Age
2. Distance Living From Campus
3. Number of Web Courses Taken
4. Knowledge of Technology at Start
5. Adequacy of Computer Skills

REGRESSION MODEL 2 SUMMARY

Model	R	R^2	Adjusted R^2	Sig.
1	.255	.065	.022	.192
2	.765	.585	.541	< .001

Criterion Variable: Student Satisfaction

Model 2: Environmental Predictors (54%)

Principles of Good Practice in Education

REGRESSION COEFFICIENTS

Variable	b	Beta	t	Sig.
Variety of ways of assessing	.412	.445	4.65	.000
Work in teams and groups	-.242	-.212	-2.73	.007
Timely comments	.198	.189	2.34	.021

Criterion Variable: Student Satisfaction

Statistically Significant at $p \leq .05$

REGRESSION COEFFICIENTS: Interpretation

Variable	b	Beta	t	Sig.
Variety of ways of assessing	.412	.445	4.65	.000

Students' satisfaction was influenced by having a variety of ways to assess their learning.

REGRESSION COEFFICIENTS: Interpretation

Variable	b	Beta	t	Sig.
Work in teams and groups	-.242	-.212	-2.73	.007

The more students were likely to work in teams and groups the less satisfied they were with the course.

REGRESSION COEFFICIENTS: Interpretation

Variable	b	Beta	t	Sig.
Timely comments	.198	.189	2.34	.021

The more students perceived receiving timely comments, the more satisfied they were with the Web-based course.

INTERPRETATION OF FINDINGS

- Students were generally satisfied with Web-based courses and would likely enroll in other online courses.

DISCUSSION

- Having a variety of ways to assess learning in Web-based courses may enhance students' satisfaction.
- Providing timely feedback may help increase satisfaction because the comments provide students with information on their progress in the course.
- Those likely to participate in group/team work may be less satisfied because of the difficulty of meeting in the online environment and the lack of face-to-face interactions.

SUMMARY

- Specific student characteristics did not help predict satisfaction in the Web-based course.
- When students' characteristics were controlled, the findings supported that environmental variables helped predict students' level of satisfaction.
- The environmental variables explained 54% of the variance of student

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- Convenience Sample
- Lack of Independent Sampling
- Differences in Conceptual Framework
- Limited Input Variables

CONCLUSION

Implementing the principles of good practice in education may help enhance student satisfaction in Web-based courses.